CORTEZ III SERVICE CORPORATION
NASA/GODDARD SPACE FLIGHT CENTER
CODE 239, BLDG 27
GREENBELT, MD 20771
FAX (301) 286-1774

DATE: 1-30-01 ____ **#PAGES** (including cover sheet)

TO: Stan Schneider
AT: NPOESS
PHONE (VOICE/FAX)

FROM: PATTY MANALANSAN, IMPORT/EXPORT SPECIALIST
PHONE: (301) 286-4579

IF YOU DO NOT RECEIVE ALL TRANSMITTED SHEETS, PLEASE CALL
(301) 286-4579

Comments:

Please review & advise if accurate within ten (10) days.

Thanks,
Patty

DTC CASE REFERRAL DOCUMENT

ADMIN USE	DATE STAFFED	DTC CASE NUMBER TA 0049-01
	2 7	

APPLICANT: Integral Systems

	Advisory Opinion	X	Agreement - [Mfg], [Tech Assist],]Distribution]		Brokering Request

DTC CASE OFFICER: [redacted]eggs
DTC Comments: NPOESS PROJECT

Recommendations and Comments Are Requested From:

X	DTRA/LD		NEA/RA		DRL/MLA		Transmittal Letter
							Attachments, stated on appl
X	NASA		EAP/RSP		OES		Tech data/Descrip Literature
							Statement of Work
	ENERGY		EUR/RPM		PM/RSAT		Order/Ltr of Intent/Contract
							Copy of Agreement
	DOT/USCG		AF/RA		NP/CBM		Copy of previous Approvals
							End Use Certificate/DSP-83
	COMMERCE		WHA/PPCP		DTC/CEB		Import Authorization
							Other (videocassette, etc.)
	L/PM		SA/RA		DTC/		Nothing
					NP		# of Collated Sets
	PKRC		EUR/PRA	X	PM/ECNP		

REPLY HERE AND RETURN TO DEPARTMENT OF STATE, OFFICE OF DEFENSE TRADE CONTROLS, WASHINGTON, D.C. 20520-0206. Recommendations within 25 working days of date staffed are appreciated. **PROVIDE COMMENTS FOR ANY RECOMMENDATION TO DENY OR RETURN WITHOUT ACTION (RWA).**

RECOMMENDATION & COMMENTS:

	APPROVE		APPROVE *WITH* PROVISO		RWA		DENY

COMMENTS:

Typed/Printed NAME AND OFFICE SYMBOL SIGNATURE

DATE: Telephone Number:

DTC CASE REFERRAL DOCUMENT

ADMIN USE	DATE STAFFED	DTC CASE NUMBER
	AR 22	TA 0049-01

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							End Use Certificate/DSP-83
	COMMERCE		WHA/PPCP		DTC/CEB		Import Authorization
							Other (videocassette, etc.)
	L/PM		SA/RA		DTC/		Nothing
					NP		# of Collated Sets
	PKRC		EUR/PRA	X	PM/ECNP		

REPLY HERE AND RETURN TO DEPARTMENT OF STATE, OFFICE OF DEFENSE TRADE CONTROLS, WASHINGTON, D.C. 20520-0206. Recommendations within 25 working days of date staffed are appreciated. **PROVIDE COMMENTS FOR ANY RECOMMENDATION TO DENY OR RETURN WITHOUT ACTION (RWA).**

RECOMMENDATION & COMMENTS:

	APPROVE		APPROVE *WITH* PROVISO		RWA		DENY

COMMENTS:

Typed/Printed NAME AND OFFICE SYMBOL SIGNATURE

DATE: Telephone Number:

INTEGRAL SYSTEMS

5000 Philadelphia Way • Lanham • Maryland • 20706-4417 • U.S.A.
Telephone: 301.731.4233 • Fax: 301.731.9606 • Internet: sales@integ.com • Web: http://www.integ.com

December 14, 2000

Applicant Code: 0801-6474

Mr. William J. Lowell
Director, Office of Defense Trade Controls
DTC, SA-6, RM 200
Department of State
Washington, D.C. 20522-0602

Subject: Proposed Technical Assistance Agreement for the Export of Technical Data and Defense Services Relating to the NPOESS Program

Dear Mr. Lowell:

Submitted herewith are ten copies of this letter and a proposed Technical Assistance Agreement ("TAA"), **collated into ten sets,** between Integral Systems, Inc. (hereinafter "Integral Systems" or "applicant"); the Norwegian Space Center (hereinafter referred to as "NSC"); and Telenor AS (hereinafter referred to as "TELENOR"). (NSC and TELENOR will be collectively referred to as "licensees".)

In accordance with 22 CFR 124.12, the following information is provided:

(a)(1) Integral Systems' DTC applicant code is: 0801-6474.

(a)(2) Identification of Licensees and Scope of the Agreement:

NORWEGIAN SPACE CENTER ("NSC")

The Norwegian Space Centre contributes to the development, co-ordination and evaluation of national space activities. Close and committing co-operation between Norwegian actors is essential in attaining results. The Norwegian Space Centre's principal tasks are to efficiently:

- influence the shaping of ESA programmes and position Norwegian actors,
- direct strategically ESA contracts and national support programmes to Norwegian industry to evolve new products and markets,

- assist Norwegian actors in global marketing based on ESA co-operation,
- contribute to the co-ordination of civilian and military-related activities,
- support the development and demonstration of new, strategically important Earth observation services of proven worth and promote the development of committed user involvement through long-term, co-ordinated projects under the leadership of the Norwegian Space Centre,
- conduct technical and administrative planning and co-ordination of space research and space-related basic research financed by the Norwegian Research Council,
- contribute to the establishing and commissioning of ground infrastructure as required to efficiently meet public, scientific and industrial needs in space activities,
- co-ordinate public relations activities to enhance the understanding, visibility and marketing of space activities,
- lead the compilation of the National Long-Term Plan in co-operation with Norwegian actors.

Andøya Rocket Range and Tromsø Satellite Station are daughter companies of which the Norwegian Space Centre owns 100 and 50 %, respectively.

In addition, the Norwegian Space Centre is responsible for the business aspects of the operation of ground infrastructure.

Hence, the Norwegian Space Centre has both management and guidance tasks. The tasks shall be completed and resources shall be allocated such that national objectives can be attained with minimum use of resources.

For more information, please see: http://www.spacecentre.no/

TELENOR AS ("TELENOR")

Telenor is the leading telecom, IT and media company in Norway. From its position as a national telecom operator, Telenor has expanded its area of activities to a broad range of products and services that build on and are related to electronic communication.

Telenor's core business areas provide voice services, information, knowledge and entertainment to end users through a broad spectrum of modern communication services. These services employ a combination of wireless communication platforms, such as mobile telephony, satellite and broadcasting networks, as well as fixed platforms such as conventional telephony, Internet Protocol (IP) and cable networks.

For more information, please see: http://www.telenor.com/

OVERVIEW OF NPOESS PROGRAM

THE PROGRAM DEFINITION AND RISK REDUCTION ("PDRR") PHASE

LMC is currently under contract - number F04701-00-C-0501 - with the IPO. The contract is for the NPOESS Program Definition and Risk Reduction (PDRR) phase to provide a single, national polar-orbiting remote sensing capability to acquire, receive, and disseminate global and regional environmental data. A similar competitive PDRR contract was awarded to TRW by the NPOESS IPO, and a competitively selected contract will be awarded for the Engineering and Manufacturing Development (EMD)/Production phase in March of 2002. The PDRR phase will end on 30 March 2002 or, if an option to the contract is exercised, on 31 December 2002.

One element of the PDRR phase involves the definition of spacecraft operation tasks, data to be exchanged, spacecraft sensor interfaces, algorithms and supporting data for science data processing during EMD. A second element of the PDRR phase is the exchange of technical data and provision of defense services to NSC/TELENOR to prepare a proposal for the EMD phase of the contract.

THE ENGINEERING AND MANUFACTURING DEVELOPMENT ("EMD")/PRODUCTION PHASE

The next phase in the NPOESS program, the EMD/Production, will call for the building of five satellites by LMC and one satellite (METOP) by ESA/EUMETSAT. During this phase, LMC will provide technical data and defense services to resolve issues arising during sensor integration and science data processing. If selected for EMD, LMC will amend this TAA to accommodate these additional tasks and will apply for the appropriate licenses for the export and import of hardware.

Duration of the TAA

The duration of the TAA is valid through December 31, 2005.

(a)(3) The technical data being provided by Integral Systems to the licensees is information that is being generated, improved, or developed and supplied to the U.S. Government. Please refer to the TAA submitted by Lockheed Martin Missiles & Space for the NPOESS project (**DTC Case No. TA1670-00**). It may contain information regarding whether any information being provided by other parties was generated, improved, or developed and supplied to the U.S. Government.

Integral Systems' effort consists of integrating the software with standard commercially available computing hardware components, such as computer workstations, storage devices, and internetworking components.

None of the technical data being provided by Integral Systems was derived from a bid or other proposal to the U.S. Government. However, please refer to the TAA submitted by

Lockheed Martin Missiles & Space for the NPOESS project (**DTC Case No. TA1670-00**). It may contain information regarding whether any information being provided by other parties was derived from a bid or other proposal to the U.S. Government.

(a)(4) The highest U.S. military security classification of the technical data to be transferred under the terms of this agreement is: unclassified.

(a)(5) There are no patent applications that disclose any of the subject matter of the technical data. Furthermore, the technical data is not covered by an invention secrecy order issued by the U.S. Patent and Trademark Office.

(a)(6) This agreement has an estimated value of **$775,000** that is based on the amount that Integral Systems will receive from Lockheed Martin for the software, hardware and services to be performed under the NPOESS subcontract between Lockheed Martin and Integral Systems.

Neither Integral Systems, NSC nor TELENOR have paid, or offered or agreed to pay, in respect of the sale for which this application is being submitted:

(i) political contributions in an aggregate amount of $5,000 or more, or
(ii) fees or commissions in an aggregate amount of $100,000 or more.

The following items comprise Integral Systems' price for the NPOESS effort

Description	Value
Engineering Labor and Travel	$775,000
Total	**$775,000**

(a)(7) No foreign military sales credits or loan guarantees are or will be involved in financing this agreement.

(a)(8) This agreement does not involve the transfer of any classified information.

(a)(9) Integral Systems is not providing information about Integral Systems' cognizant security office of the Defense Investigative Service because the agreement will not involve the export of classified information.

REQUIRED STATEMENTS:

(b)(1) "If the agreement is approved by the Department of State, such approval will not be construed by the applicant as passing on the legality of the agreement from the standpoint of antitrust laws or other applicable statutes, nor will the applicant construe the

Department's approval as constituting either approval or disapproval of any of the business terms or conditions between the parties to the agreement."

(b)(2) "The applicant will not permit the proposed agreement to enter into force until it has been approved by the Department of State."

(b)(3) "The applicant will furnish the Department of State with one copy of the signed agreement (or amendment) within 30 days from the date that the agreement is concluded and will inform the Department of its termination not less than 30 days prior to the expiration and provide information on the continuation of any foreign rights or the flow of technical data to the foreign party. If a decision is made not to conclude the proposed agreement, the applicant will so inform the Department within 60 days."

(b)(4) "If this agreement grants any rights to sub-license, it will be amended to require that all sub-licensing arrangements incorporate all the provisions of the basic agreement that refer to the U.S. Government and the Department of State (i.e., 22 CFR 124.8 and 124.9)."

The agreement does not grant licensees the right to sub-license any of the exported technical data or subcontract the services requested by the Integral Systems of the licensees.

Reference List of Relevant ITAR Sections

To facilitate U.S. Government consideration of this request, the agreement contains the following provisions currently required by the ITAR:

Pursuant to 22 CFR 124.7:

CFR Section Agreement Reference

124.7(l) – Located in Section I(1) labeled "ITAR 124.7" on page 4
124.7(2) – Located in Section I(2) labeled "ITAR 124.7" on page 5
124.7(3) – Located in Section I(3) labeled "ITAR 124.7" on page 5
124.7(4) – Located in Section I(4) labeled "ITAR 124.7" on page 5

Pursuant to 22 CFR 124.8:

CFR Section Agreement Reference

124.8(l) – Located in Section II(1) labeled "ITAR 124.8" on page 5
124.8(2) – Located in Section II(2) labeled "ITAR 124.8" on page 5
124.8(3) – Located in Section II(3) labeled "ITAR 124.8" on page 5
124.8(4) – Located in Section II(4) labeled "ITAR 124.8" on page 5
124.8(5) – Located in Section II(5) labeled "ITAR 124.8" on page 5
124.8(6) – Located in Section II(6) labeled "ITAR 124.8" on page 6

This agreement relates to the following U.S. Munitions List categories: XV. This category is not designated as Significant Military Equipment (SME) unless the articles or services are intended for use by the armed forces of a foreign country. The defense articles and technical data being exported is not intended for use by the armed forces of a foreign country.

This communication contains information that is exempt from release pursuant to Exemption 4 of the Freedom of Information Act, 5 U.S.C. 552(b)(4) because its disclosure would cause substantial competitive harm. We understand that you will be provided notice of a receipt of any requests made under the Act. See also 22 CFR 171.16.

If you require additional information, please contact the undersigned at telephone number (301) 731-4233, extension 4109.

Sincerely,

Patrick R. Woods

Patrick Woods
Vice President, Government Programs

Attachments:
Certification Letter, per 126.13
Proposed Agreement including Attachment A

5000 Philadelphia Way • Lanham • Maryland • 20706-4417 • U.S.A.
Telephone: 301.731.4233 • Fax: 301.731.9606 • Internet: sales@integ.com • Web: http://www.integ.com

December 14, 2000

Mr. William J. Lowell
Director, Office of Defense Trade Controls
DTC, SA-6, RM 200
Department of State
Washington, D.C. 20522-0602

Subject: Certification Letter Required by 22 CFR 126.13

Dear Mr. Lowell:

I, the undersigned, am a U.S. person as defined in 22 CFR 120.15 and I am a responsible official empowered by the applicant to certify the following in compliance with 22 CFR 126.13:

1. Neither the applicant, its chief executive officer, president, vice presidents, other senior officers or officials (e.g. comptroller, treasurer, general counsel) nor any member of its board of directors is:

    a. the subject of an indictment for or has been convicted of violating any of the U.S. criminal statutes enumerated in 22 CFR 120.27 since the effective date of the Arms Export Control Act, Public Law 94-329, 90 Stat. 729 (June 30, 1976); or
    b. ineligible to contract with, or to receive a license or other approval to import defense articles or defense services from, or to receive an export license or other approval from any agency of the U.S. Government;

2. To the best of the applicant's knowledge, no party to the export as defined in Section 126.7(e) has been convicted of violating any of the U.S. criminal statutes enumerated in 22 CFR 120.27 since the effective date of the Arms Export Control Act, Public Law 94-329, 90 Stat. 729 (June 30, 1976), or to receive a license or other approval to import defense articles or defense services from, or to receive an export license or other approval from any agency of the U.S. Government, and

3. The natural person signing the application for the license or other request for approval is a responsible official who has been empowered by the applicant and is a citizen of the United States.

Sincerely,

Patrick Woods
Vice President, Government Programs

TECHNICAL ASSISTANCE AGREEMENT

BETWEEN

INTEGRAL SYSTEMS, INC.

AND

NORWEGIAN SPACE CENTER, Norway

And

TELENOR AS, Norway

This Agreement is entered into by and between Integral Systems, Inc., a corporation of the State of Maryland, (hereinafter referred to as "INTEGRAL SYSTEMS") with offices at 5000 Philadelphia Way, Lanham, Maryland 20706 U.S.A., and the Norwegian Space Center (hereinafter referred to as "NSC"), located at Dranmensveien 165, P.O. Box 113 Skoyen, N-0212, Oslo, Norway; and TELENOR AS (hereinafter referred to as "TELENOR"), headquartered at Universitetsgt 2, P.O. Box 6701, St. Olavs pl, N-0130, Oslo, Norway and is effective upon the date of signature of the last party to sign the Agreement. INTEGRAL SYSTEMS, NSC, and TELENOR are hereinafter referred to as the Parties.

WHEREAS, INTEGRAL SYSTEMS is under subcontract (No. HE01L4701A) to the Lockheed Martin Corporation ("LMC") for the design, development and integration of the NPOESS Satellite Operations Center ("SOC") and Environmental Satellite Operations Center ("ESOC");

WHEREAS, LMC is under contract (Number F04701-00-C-0501) with the Integrated Program Office ("IPO") comprised of the Department of Commerce, NASA and the Department of Defense (see Statement of Work) for the National Polar Orbiting Operational Environmental Satellite System ("NPOESS") Program;

WHEREAS, under the prime contract LMC is the prime contractor and will provide 5 satellites;

WHEREAS, the NPOESS Preparatory Project (NPP) is a joint NASA/NPOESS/IPO mission which will bridge the NPOESS and Earth Observing System (EOS) missions;

WHEREAS the NPOESS program will use the same satellite ground sites to support the NPP and NPOESS spacecraft;

WHEREAS, the purpose of the NPOESS is to collect satellite-based global multispectral radiometry and other specialized meteorological, oceanographic, and solar-geophysical data and to disseminate the data to the program's central users and field users deployed worldwide;

WHEREAS, INTEGRAL SYSTEMS will be participating in meetings between LMC, NSC and TELENOR;

WHEREAS, the IPO and LMC will obtain their own import and export licensing from the Department of State as required;

WHEREAS , the Svalbard, Norway satellite ground station is owned and operated by the Norwegian Space Center;

WHEREAS, NSC and TELENOR desire to receive technical data and defense services related to the use of the ground station site at Svalbard, Norway for the collection of mission data from and the uplinking of commands and data loads to the constellation of NPOESS and NPP spacecraft, and desires to relay this information to/from satellite control centers and data processing sites in the United States, and to receive technical data necessary to prepare a proposal, including negotiated subcontracts, for the Engineering and Manufacturing Development ("EMD") phase of the program;

NOW THEREFORE, the parties desire to enter into this Technical Assistance Agreement as follows:

This Technical Assistance Agreement is intended to enable INTEGRAL SYSTEMS to perform defense services and disclose technical data during the Program Definition and Risk Reduction ("PDRR") Phase and the Engineering and Manufacturing Development ("EMD")/Production Phase of the NPOESS Program in order to determine the requirements, equipment, conceptual design and support needed to use the ground station site at Svalbard, Norway for the collection of mission data from and the uplinking of commands and data loads to the constellation of NPOESS and NPP spacecraft. NSC and TELENOR will relay this information to/from satellite control centers and data processing sites in the United States.

NPP

NPOESS Preparatory Project ("NPP") is a joint IPO/NASA mission intended to bridge the NPOESS and NASA Earth Observing System ("EOS") missions. NPP will provide primary end-to-end risk reduction and validation for 3 of the 4 mission critical NPOESS sensors and data continuation for NASA global change observations. If LMC also wins the EMD phase of the NPOESS contract, INTEGRAL SYSTEMS will have the added responsibility of providing to the NPP program the engineering effort to develop and integrate the SOC (Satellite Operations Center) portion of the NPOESS system.

While there are several phases to the NPOESS program, Integral Systems, Inc. is currently under contract (number # HE01L4701A) with LMC to provide the engineering and materials for design, development, integration, and test of the Satellite Operations Center (SOC) for the NPOESS system. As related to the SOC design, Integral Systems, Inc. may participate in discussions that LMC has with NSC and TELENOR. However, the information below is provided as an overview of the entire NPOESS program and the possible information that might be discussed during the NPOESS-related meetings between the Parties.

(i) The Program Definition and Risk Reduction Phase

LMC is currently under contract - number #F04701-00-C-0501 - with the IPO. The contract is for the NPOESS Program Definition and Risk Reduction (PDRR) phase to define the system including the requirements, functional analysis and conceptual designs to provide a single, national polar-orbiting remote sensing capability that will acquire, receive, and disseminate global and regional environmental data. A similar competitive PDRR contract was awarded to TRW by the IPO, and a competitively selected contract will be awarded for the EMD phase of the NPOESS program, currently scheduled for March 2002.

The PDRR phase includes three elements. One element of the PDRR phase entails reducing the risk associated with integrating the five NPOESS sensors onto the baseline of the LMC satellite. The second element is the development of a conceptual design for ground sites used to communicate with the satellites and to relay this information to/from sites in the United States. The third element is the preparation of a proposal for the execution of the EMD phase of the program. The proposal effort will include the negotiation of subcontracts with all subcontractors, including sensors and ground support facilities. The PDRR phase will end on 30 March 2002 or, if an option to the contract is exercised, on 31 December 2002.

The primary exchange of information to be carried out under this TAA will take place during the PDRR phase of the NPOESS program - namely from the date of execution of an approved TAA through 31 December 2002. The exchange of data includes (1) requirements for satellite contact coverage including satellite orbital information, frequencies, data rates and data formats for the proposed NPOESS spacecraft, (2) potential antenna design information (drawings and specifications) for potential installation of additional antennas and associated electronic equipment at Svalbard, Norway, (3) electronic communications equipment descriptions and requirements, including receiver, transmitters and associated data handling electronics, (4) information and requirements for interfaces to communications satellite or fiber optic data transmission services (Svalbard - United States), (5) requirements and descriptions of equipment and personnel accommodations, and (6) requirements and information about the support and services required to operate and maintain equipment at Svalbard.

In addition, technical data and assistance will be exchanged as required to support preparation of the proposal and negotiation of subcontracts for the EMD phase of the program and the initial period of the EMD phase if selected.

(ii) The Engineering and Manufacturing Development (EMD)/Production Phase

The next phase in the NPOESS program, EMD/Production, will call for the building of five satellites, ground stations, and data processing for system operations. During the EMD/Production Phase, LMC will provide to NSC and TELENOR under this TAA, technical data and services related to the installation of equipment at the Svalbard site.

If selected for EMD, Integral Systems will amend this TAA to accommodate any additional exports that may be required. This EMD phase will encompass work that will permit the Svalbard site to support a contact from every NPOESS spacecraft and will include antennas and associated electronics as well as the equipment necessary to forward the collected information to the data processing and control centers via COMSAT or fiber optic cable. Also, additional antennas and electronic equipment will be installed at the Svalbard site. At EMD award, the IPO will transfer the responsibility for the design, upgrading, operation, and maintenance of the ground sites to the successful EMD/Production contractor.

2. It is understood that this Technical Assistance Agreement is entered into as required under U.S. Government regulations and, as such, it is an independent agreement between the parties, the terms of which will prevail, notwithstanding any conflict or inconsistency that may be contained in other arrangements between the Parties on the subject matter.

3. The parties agree to comply with all applicable sections of the International Traffic in Arms Regulations (ITAR) of the U.S. Department of State and that, more particularly, in accordance with such regulations the following conditions apply to this Agreement:

I. ITAR 124.7

(1) Data to be exchanged includes that necessary to establish a ground site at Svalbard, Norway with the capability to transmit commands and other information to the spacecraft and receive telemetry and mission data and to relay this information to/from sites in the United States. Such data includes: (1) requirements for satellite contact coverage, including satellite orbital information, frequencies, data rates and data formats for the proposed NPOESS spacecraft, (2) antenna design information (drawings and specifications) for potential installation of additional antennas and associated electronic equipment at Svalbard, (3) electronic communications equipment descriptions and requirements, including receiver, transmitters and associated data handling electronics, (4) information and requirements for interfaces to communications satellite or fiber optic data transmission services (Svalbard- United States), (5) requirements and descriptions of equipment and personnel accommodations, (6) requirements and information about the

support and services required to operate and maintain equipment at Svalbard. (See Attachment A – Statement of Work).

(2) All technical data and defense services transferred between INTEGRAL SYSTEMS, NSC and TELENOR under this Agreement pertains solely to the definition and operation of the equipment necessary to support the NPOESS spacecraft using the Svalbard site for the uplinking of commands and the receipt of telemetry and mission data and the relay of this information to/from sites in the United States and does not represent a transfer of technical data or defense services specific to the design, manufacture, assembly or test of the NPOESS spacecraft itself. (See Attachment A – Statement of Work).

(3) The agreement is valid through 31 December 2005.

(4) The effort intended to be accomplished under this Agreement will take place in Norway, or the United States of America. There is no other country or area in which manufacturing, processing, sale or other form of transfer is to be licensed.

II. ITAR 124.8

(1) This Agreement shall not enter into force and shall not be amended or extended without the prior written approval of the Department of State of the U.S. Government.

(2) This Agreement is subject to all United States laws and regulations relating to exports and to all administrative acts of the U.S. Government pursuant to such laws and regulations.

(3) The Parties to this Agreement agree that the obligations contained in this Agreement shall not affect the performance of any obligations created by prior contracts or subcontracts which the Parties may have individually or collectively with the U.S. Government.

(4) No liability will be incurred by or attributed to the U.S. Government in connection with any possible infringement of privately owned patent or proprietary rights, either domestic or foreign, by reason of the U.S. Government's approval of this Agreement.

(5) The technical data or defense service exported from the United States in furtherance of this Agreement and any defense article which may be produced or manufactured from such technical data or defense service may not be transferred to a person in a third country or to a national of a third country except as specifically authorized in this Agreement unless the prior written approval of the Department of State has been obtained.

(6) All provisions in this Agreement which refer to the United States Government and the Department of State will remain binding on the Parties after the termination of the Agreement.

4. It is understood that disclosure of information by NSC and TELENOR to INTEGRAL SYSTEMS is subject to any rules, restrictions or laws of Norway.

5. Technical data relating to this program may be exchanged with NSC and TELENOR contractors/subcontractors provided that, prior to the release of any technical data, NSC and/or TELENOR, executes a Non-Disclosure Agreement (NDA) with each company. The NDA will incorporate all of the provisions of the basic Agreement, which refer to the U.S. Government and the Department of State (i.e., 22 CFR 124.8 and/or 124.9). Copies of the executed NDAs referencing this Agreement by number will be provided to and maintained by INTEGRAL SYSTEMS for five years from the expiration of the Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed effective as of the day and year above provided.

Lockheed Martin Missiles & Space
By _____

Printed Name _____

Title _____

Date _____

Norwegian Space Center
By _____

Printed Name _____

Title _____

Date _____

TELENOR AS
By _____

Printed Name _____

Title _____

Date _____

Attachment A –

STATEMENT OF WORK

Between

Lockheed Martin Missiles & Space (LMC),

And

Integral Systems, Inc.,

And

Norwegian Space Center (NSC), Norway,

And

Telenor AS (TELENOR), Norway

TABLE OF CONTENTS

1.0 INTRODUCTION

This Technical Assistance Agreement is intended to enable Integral Systems, Inc. to perform defense services and disclose technical data during the Program Definition and Risk Reduction ("PDRR") Phase and the Engineering and Manufacturing Development ("EMD")/ Production Phase in support of the determination of the requirements, equipment conceptual design and support needed to use the ground station site at Svalbard, Norway for the collection of mission data from and the uplinking of commands and data loads to the constellation of NPOESS and NPP spacecraft as well as the relay of this information to/from satellite control centers and data processing sites in the United States.

NPP

NPP is a joint IPO/NASA mission intended to bridge the NPOESS and NASA Earth Observing System (EOS) missions. NPP will provide primary end-to-end risk reduction and validation for 3 of the 4 mission critical NPOESS sensors and data continuation for NASA global change observations. If LMC also wins the EMD phase of the NPOESS contract, INTEGRAL SYSTEMS will have the added responsibility of providing to the NPP program the engineering effort to develop and integrate the SOC (Satellite Operations Center) portion of the NPOESS system.

There are several phases to the NPOESS program:

(i) The Program Definition and Risk Reduction Phase

LMC is currently under contract (number #F04701-00-C-0501) with the IPO. The contract is for the NPOESS Program Definition and Risk Reduction (PDRR) phase to define the system including the requirements, functional analysis and conceptual designs to provide a single, national polar-orbiting remote sensing capability that will acquire, receive, and disseminate global and regional environmental data. A similar competitive PDRR contract was awarded to TRW by the NPOESS IPO, and a competitively selected contract will be awarded for the EMD phase of the NPOESS *program currently scheduled* for March 2002.

Integral Systems, Inc. is currently under contract (number # HE01L4701A) with LMC to provide the engineering and materials for design, development, integration, and test of the Satellite Operations Center (SOC) for the NPOESS system. As related to the SOC design, Integral Systems, Inc. may be present and participate in all discussions with NSC and TELENOR.

There are three elements of the PDRR phase. The first concerns the reduction of risk associated with integrating the five NPOESS sensors onto the baseline of the LMC satellite. The second element of the contract is the development of a conceptual design for

ground sites used to communicate with the satellites and relay this information to/from sites in the United States. The third element includes the preparation of a proposal and negotiated subcontracts for the execution of the EMD phase of the program. The PDRR phase will end on 30 March 2002 or, if an option to the contract is exercised, on 31 December 2002.

The primary exchange of information to be carried our under this TAA will take place during the PDRR phase of the NPOESS program - namely from the date of execution of an approved TAA through 31 December 2002. The exchange of data includes (1) requirements for satellite contact coverage, including satellite orbital information, frequencies, data rates and data formats for the proposed NPOESS spacecraft, (2) potential antenna design information (drawings and specifications) for potential installation of additional antennas and associated electronic equipment as Svalbard, Norway, (3) electronic communications equipment descriptions and requirements, including receiver, transmitters and associated data handling electronics, (4) information and requirements for interfaces to communications satellite or fiber optic data transmission services (Svalbard- United States), (5) requirements and descriptions of equipment and personnel accommodations, (6) requirements and information about the support and services required to operate and maintain equipment at Svalbard, Norway.

(ii) The Engineering and Manufacturing Development (EMD)/Production Phase

The next phase in the NPOESS program, EMD/Production, will call for the building of five satellites, ground stations, data processing for system operations. During the EMD/Production Phase, LMC will provide to NSC and TELENOR under this TAA, technical data and services related to the installation of equipment at the Svalbard site.

If selected for EMD, LMC will amend this TAA to accommodate the export of hardware. LMC will export equipment that will permit the Svalbard site to support a contact each orbit from every NPOESS and will include antennas and associated electronics as well as the equipment necessary to forward the collected information to the data processing and control centers via COMSAT or fiber optic cable. Also, LMC will install and operate additional antennas and electronic equipment at the Svalbard site. In addition, LMC will provide the operational services required to run these sites when NPOESS goes operational in 2005 to support the NPP spacecraft. At EMD award, the IPO will transfer the responsibility for the design, upgrading, operation, and maintenance of the ground sites to the successful EMD/Production contractor.

2.0 SCOPE

During the PDRR and EMD contracts with the IPO, Lockheed Martin Missiles and Space ("LMC") will exchange technical data and provide defense services to NSC and TELENOR as necessary for the development of the requirements and conceptual designs for the antennas, communications equipment, interfaces to satellite or cable data

communications providers, facilities and physical equipment and the support services necessary to support uplink and downlink contacts with NPOESS and NPP spacecraft. As related to the SOC design, Integral Systems, Inc. may participate in discussions that LMC has with NSC and TELENOR.

This TAA will enable INTEGRAL SYSTEMS, TELENOR and NSC to disclose technical data and provide defense services in support of (1) development of the equipment and facilities needed to support the uplink and downlink communications with the NPOESS and NPP spacecraft (2) development of the equipment and facilities needed to link these facilities with satellite communications or cable based data communications providers to relay the NPOESS mission data between Svalbard, Norway and NPOESS facilities located in the United States (the SOC will be located at Schreiver AFB, and NESDIS in Suitland, MD and the data processing centers will be in Suitland, Offit AFB Omaha, NE, FNMOC Monterey, CA, and NAVOCEANO Bay St. Louis MS) and (3) preparation of the proposal for EMD.

3.0 OBJECTIVE

The objective is to exchange technical data and provide defense services associated with the development of an operational satellite ground station capability at Svalbard suitable for supporting the NPOESS mission. The work includes information on the requirements for (1) ground antennas and related communications equipment, (2) electronics equipment and antennas needed to interface with data communications providers for the transfer of data between Svalbard, Norway and the United States, and (3) support and services for the operation of this equipment on an operational basis with all the required staffing, spare equipment and maintenance services.

Technical data to be exchanged includes, but is not limited to (1) requirements for satellite contact coverage including satellite orbital information, frequencies, data rates and data formats for the proposed NPOESS and NPP spacecraft, (2) potential antenna design information (drawings and specifications) for potential installation of additional antennas and associated electronic equipment at Svalbard, (3) electronic communications equipment descriptions and requirements, including receiver, transmitters and associated data handling electronics, (4) information and requirements for interfaces to communications satellite or fiber optic data transmission services (Svalbard- United States), (5) requirements and descriptions of equipment and personnel accommodations, and (6) requirements and information about the support and services required to operate and maintain equipment at Svalbard.

4.0 TASK DESCRIPTIONS

The following services and technical data are required to support the development of the requirements and conceptual designs for a satellite ground station at Svalbard capable of

supporting every pass of a three satellite NPOESS/NPP constellation and the relay of the mission data to processing sites in the United States.

4.1 LMC Interface Specifications and Requirements Applicable to Svalbard Satellite Ground Station

4.1.1 Description

Develop the requirements and Interface Specifications for the ground site at Svalbard. A sampling of the requirements and interface specifications in listed in Appendix 1 of this Statement of Work.

The task will include the following:

- Develop and flow down the requirements for the ground site at Svalbard to enable it to support the NPOESS and NPP mission. This includes:
  - equipment
  - facilities
  - staffing
  - maintenance
  - communications

- Develop an interface specification between the Svalbard ground site and the other elements of the NPOESS and NPP system. This interface specification will cover all interfaces to the NPOESS and NPP systems including:
  - Satellite
  - DRR (data relay to/from United States
  - Site infrastructure
  - Satellite control center

4.1.2 Approach

-LMC will develop flow down of the generic ground site requirements.

-LMC will develop interface requirement documents and identify interface issues.

-NSC and TELENOR will provide information on the requirements and infrastructure of the Svalbard site.

-NSC and TELENOR will provide inputs, comment on and update the requirements documents.

4.1.3 Schedule

The review of the interface documents will occur between the date of execution of this approved TAA and March 2002.

4.2 Conceptual Design for the Equipment at the Svalbard Ground Station

4.2.1 Description

Develop a conceptual design, including equipment, conops and facilities and support plans for the operation of an NPOESS ground site at Svalbard to support the operation of the NPOESS and NPP spacecraft.

4.2.2 Approach

- LMC will develop a conceptual design for equipment, conops and support
- NSC and TELENOR will provide information on Svalbard facility and its support infrastructure
- NSC and TELENOR will develop a support plan
- NSC and TELENOR will comment and update the conceptual design, conops and support plan

4.2.3 Schedule

The review of the conceptual design will occur between the date of execution of this approved TAA and June 2001.

4.4 Host or Attend Meetings for the Exchange of Technical Data

4.4.1 Description

Attend technical interchange meetings involving the development of requirements, concepts, trade studies and preliminary designs for a satellite ground station at Svalbard

The task will include participation in the following types of reviews

- Design reviews
- Technical Interchange Meetings (TIMs)
- Test support reviews
- LMC satellite baseline data

4.4.2 Approach

- At the request of the NPOESS Integrated Program Office, LMC will attend reviews and technical interchange meetings that are required to develop Svalbard into an operational ground site capable of fully supporting the NPOESS and NPP missions.

4.4.3 Schedule

Interface meetings between NSC, TELENOR and INTEGRAL SYSTEMS will occur between the date of execution of this approved TAA and June 2001.

5.0 DELIVERABLES

Reports of the major interchange meetings will be delivered to the NPOESS IPO within 30 days of each meeting. The first meeting is scheduled for September 2000. Subsequent interchange meetings are planned at approximately six-month intervals through December 2002.

Appendix 1
TECHNICAL DATA

The following documents are representative of the documents that will be furnished by LMC to the Norweign Space Center and TELENOR in order for LMC to perform the tasks outlined in Attachment A – Statement of work. However, they may not be the specific documents to be provided. **INTEGRAL SYSTEMS will participate in some or all of the discussions relating to the information listed below.**

Title	Type	Document Number
NPOESS System Performance Specification	Spec	TBD
NPOESS C3 Segment Performance Specifications	Spec	TBD
Communication Link Budgets	Engr Mem	TBD
NPOESS Concept of Operation	Doc	TBD
Specific Equipment Specification (antenna, receiver)	Doc	TBD